

# **DRAFT- Attachment 1**

## **NPOESS SARSAT/ARGOS MEETING Silver Springs, MARYLAND September 9<sup>th</sup> 2003**

### **1. Introductions**

A meeting to review the status of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) was held on September 9<sup>th</sup>, 2003 in Silver Springs. The chairman of the meeting was Mr. Dave Benner.

### **2. Approval of Agenda**

The agenda was approved and is included as Attachment 1.

### **3. Discussion and Review of Action items**

Mike Cummings gave an update on the liability issue which was recapped under action item review. Jim Mental related the following information to IPO, TIROS and POES has no liability insurance through the contractor since the equipment is considered Government Furnished Equipment (GFE). CNES would like some liability insurances in the documentation once the instrument is in the US. Rob Bassett inquired how other foreign instruments are handled. IPO mentioned that GPSOS is a foreign instrument but was purchase by a contract and is not being received as GFE, therefore it is a different situation.

Action Item 1: See above TAA bullet. Action closed upon signature of EMS. **Closed**

Action Item 2: The agreement from CNES is for 2 SARPs with the same interface with a slight variance in power from previous models. **Closed**

Action Item 3: Open

Action Item 4: Jeff Tu Left the IPO and his position is open. The is an unofficial answer of once every three years, but and official answer in writing is necessary. **Open**

Action Item 5: Closed.

Action Item 6: Closed.

Action Item 7: **Closed**. Discussions followed on the Receiver/Antenna lose for the instrument. The lose is significant at the LNA (1.6db is the limit) (-3db amplified Gain)

Action Item 8: There is an issue with the master schedule since several of the delivery dates are TBD. Paul Lee (NG) stated he can submit action to corporate with the TBD unresolved and that dates even if not accurate would be better. NG would like appropriate dates or a letter from IPO excusing the TBD to allow for the planning process to continue. Discussion on the number of instruments that each participant will provide, CNES can only agree to 2 or 6 SARPs until further review in 2005/2006 time frame when they ask for funding. Canada's EMS has 3 of 6 SARRs in the works and can have all 6 when NG requires them. The CNES situation can not be resolved until the budgetary process takes place in France in 2005/2006. An **action** was taken to place a decision point in the

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Integrated Milestone Schedule to coincide with the CNES budget decision. The decision point will allow a mass mock to be built to fill the spacecraft slot if CNES can not commit to further SARPs.

Dates were provided for the TBD to eliminate the need for a letter from IPO. Dates provide are reflected on the IMS Attachment 2.

**Action** was taken for NG to exchange simulator specification documentation with EDU documentation from CNES

Action Item 9: **Closed**

Action Item 10: Awaiting Signatures of the TAA then NG will update the Canadian's on Annex 2 of the Product Assurance Implementation Plan (PAIP). **Open**

Action Item 11: Closed

Action Item 12: Closed

Action Item 13: Closed

Action Item 14: Rewritten as two new actions. Action taken to for SARSAT same for ADCS. Action to provide feed back to Mike Cummings (CSC) on the SARSAT (ADCS) project plans by the end of October. Action Mike Cummings to create a final draft from input collected by January 2004. Action to move the project plans to signature in 2004.

Action Item 15: Closed

Action Item 16: Closed

Action Item 17: Closed

Action Item 18: New action items. Open. New action item, Tom Button (DSD) will send documentation on the antenna test (post test launch report) and procedures from NASA POES experiences. On orbit testing for Cospas-Sarsat antenna is not on the NG master schedule. NG will have to check on this since it falls under their Cal/Val Team.

### **4. IPO EMD Contract Status**

There as been a renegotiation of the EMD contract which has impacted the NPOESS schedules. Schedule changes may push "re-plan dates" 2-3 years further into the future. The renegotiation was caused by Congressional budget cut.

### **5. Ground System Architecture Overview**

Brief followed by discussion requested on the data ICD's last chart. DRR Data Re-coupling Retrieval Maxi 2002 package has data showing Safety Net performance at 80.4% of data collected within 28 minutes from data collection to ground system.

Change on last slide USMCC to NESDIS due to interface for NG is Instrument to CEMCSIS on different documents. CEMCSIS will still provide delivery services of DCS data.

**Actions** NESDIS to provide current Interface documentation NG to show what is currently being done

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Information on how DCS should be formatted from the Spacecraft needs to be documented. The data will be packetized on NPOESS and METOP with CCSD Packeting format.

Mission data interface with the end user is not in place and is covered by a separate document Interface for Telemetry and Command Structure.

Satellite pass telemetry for SARSAT and DCS are handled as products.

IDPS doesn't receive all of the telemetry they pick and choose by instrument. There are stored and real time telemetry options as well. The C3 and IDPS ICD describe which types are delivered.

Stored Mission Data is always encrypted including DCS, but will be decrypted at the IDPS then placed on the CEMCSIS.

Currently all four Centrals will have access to DCS data if there needs to be a change to that a document will need to be created.

### **6. Review of SARSAT Project Plan**

A review of the SARSAT Project plan produced the following comments.

- The verbal format of the document was called into question, due to the use of shall, are, is, will... etc. It was pointed out there needs to be consistence in the wording. Consensus was "will" is the correct wording for this document.
- NG Paul Lee inquired as to the need or requirement for a spacecraft simulator since it is in the Project Plan. Claude Gal CNES stated that they do not need a spacecraft simulator. Jim Morris IPO will respond to NG.

### **7. NOAA/CNES NPOESS ADCS MOU**

The NPOESS NOAA/CNES MOU is under review by DOC General Counsel. This process may take a couple of months. After GC, the MOU will be submitted to the Department of State with a 1-2 month clearance period. The MOU could be ready by the beginning of January to share with CNES. The next steps in the process include negotiation on text with CNES, courtesy reviews from NOAA, submission of the final draft to the Department of State for approval, and the final step signature and acceptance by NOAA and CNES.

### **8. Review of ADCS Project plan**

The following comments were made on the ADCS project plan.

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- Commissioning and decommissioning instruction missing from the document.
- STE Calibration information on page 9 conflicts with page 18.
- Mike Cummings (MITRE) to integrate comments to ADCS Project Plan by December 2003.
- Plan to sign the ADCS Project plan by the end of 2004.
- Annex 1 needs to be updated by NG for the delivery dates discussed.
- Annex 2 Contact information needs to be updated.

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### **NPOESS SARSAT/ARGOS MEETING**

**Silver Spring, MD  
September 09, 2003**

#### **Action Items from previous meeting**

1. Canada to explore the possibility of having EMS Technologies sign a non-disclosure agreement rather than trying to amend the TAA (Technical Assistance Agreement) to include their signature. **Closed.**
2. NOAA to clarify the number of SARP's to be delivered to Northrop Grumman. **Closed.**
3. NOAA (Tom Button) to provide Northrop Grumman with a copy of the METOP Orbit Maneuver paper that was submitted to Cospas-Sarsat Joint Committee.
4. Northrop Grumman (Jeff Tu) to provide spacecraft maneuver information to NOAA, CNES and NSS as it becomes available. The information is to include the parameters of the maneuvers, e.g., how often they will occur, the types of maneuvers, what the variation is, etc.
5. CNES and NOAA to provide antenna pattern information to Northrop Grumman to confirm that the antenna pattern meets with the specifications found in C/S T.003. **Closed.**
6. NOAA to provide IPO (Mike Cummings and Jim Morris) and Northrop Grumman (Paul Lee) with the UIIS as soon as it is feasible. **Closed.**
7. Northrop Grumman (Paul Lee) to provide Canada (Roger Lapointe) with Annex 2 of the ADCS as soon as the TAA has been signed. **Closed.**
8. NOAA (Dave McGinnis) to provide old TIROS and ADCS frequency filings on uplink and downlink frequencies to Northrop Grumman (Paul Lee). **Closed.**
9. NOAA IPO (Mike Cummings) to draft Sarsat Project Plan for N and N<sup>1</sup> satellites. **Closed.**
10. NOAA (Rob Bassett and Tom Button) to provide IPO (Mike Cummings) with an electronic copy of the METOP Sarsat project plan. **Closed.**
11. IPO to integrate the Project Plan by the end of 2003.
12. NOAA DSD to investigate the Fairbanks master beacon requirements (Argos).
13. NSS to provide Northrop Grumman (Paul Lee) with master drill template information.

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14. NOAA to review the TCP for ARGOS and Sarsat to determine if it is necessary to add maneuver guidance.
15. Northrop Grumman (Paul Lee) to determine if the on-orbit antenna characterization is within the scope of their contract.  
**Closed.**
16. CNES and Canada to provide NOAA with information from the Flight Operations Manual. **Closed.**
17. Northrop Grumman and Canada to come to closure on simulator.  
**Closed.**
18. NOAA/DSD to set the date and location of the next meeting.. (September is a target date).

### **New Action Items:**

19. CNES and NGST to discuss noise figure and insertion loss issues related to the SARP/ADCS antenna and associated amplifiers.
20. NGST to provide milestone for decision on providing the four outstanding SARPs.
21. NGST to provide CNES with simulator specification document.
22. CNES, NOAA , and NSS to provide IPO (Mike Cummings) with comments on the NPOESS Sarsat Project Plan.
23. IPO (Mike Cummings) to incorporate NPOESS Sarsat Project Plan comments received in October into the Project Plan by the end of 2003.
24. NOAA, IPO, CNES, NGST to provide TCP inputs to DND(Rick Corrigan).
25. NOAA to provide NGST with CEMSCS/SOCC interface document.
26. NOAA to identify command and telemetry requirements to IPO.
27. NSS(Ed Hitchcock) to confirm NSS/DND need for a spacecraft simulator.
28. NOAA to clarify on orbit verification tests to IPO/NGST and provide NGST with appropriate test procedures and documentation.
29. NGST to seek guidance from Denise Delay about ??????.
30. NOAA to provide NGST with on-orbit test requirements and procedures.

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Attachment 1

# NPOESS SARSAT / ADCS coordination meeting

9/9/03  
9:30 AM  
NOAA Integrated Program Office  
E/IP - Centre Building  
8455 Colesville Road, Suite 1450  
Silver Spring, MD 20910  
301-713-4850

## Agenda

Agenda Item	Discussion Participant
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- |  |                 |
|--|-----------------|
| 1. Introductions   | NOAA (OSDPD)    |
| 2. Approval of Agenda                                    | All             |
| 3. Review of Action Items<br>(from January 2003 meeting) | All             |
| 4. IPO EMD Contract Status                               | NOAA (IPO)      |
| 5. Ground System Architecture Overview                   | NOAA (IPO) / NG |
| 6. Review of SARSAT Project Plan                         |                 |
| - Deliverables   | CNES / DND      |
| - Schedules and Status                                   | NG / CNES / DND |
| - Issues   | All             |
| - On Orbit Testing                                       | All             |
| - Telemetry and Command Procedures                       | All             |
| 7. SARSAT Actions  | All             |
| 8. NOAA / CNES NPOESS ADCS MOU<br>Timeline Update        | NOAA (IA)       |
| 9. Review of ADCS Project Plan                           |                 |
| - Deliverables   | CNES            |
| - Schedules and Status                                   | NG / CNES       |
| - Issues   | All             |
| - On Orbit Testing                                       | All             |
| - Telemetry and Command Procedures                       | All             |
| 10. ADCS Actions   | All             |

## Additional Information

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## Attachment 2 LAUNCH SCHEDULE AND A-DCS NEED DATES

<b>Deliverable Hardware</b>	<b>Projected Launch Date</b>	<b>Payload Need Date</b>	<b><del>A-DCS</del> <del>Delivery Date</del> (projected)</b>	<b>A-DCS Delivery Date (proposed)</b>
Instrument for C1	11/30/09	9/1/08	6/26/06	5/1/08
Instrument for C2	6/30/11	5/1/10	9/27/07	N/A
Instrument for C3	6/30/13	5/1/12	4/28/09	1/1/12
Instrument for C4	11/30/15	9/1/13	4/29/11	(5/1/13)
Instrument for C5	1/31/18	7/1/14	10/30/13	N/A
Instrument for C6	TBD	5/1/15	7/23/14	(1/1/15)
Engineering Development Unit	N/A	1/1/08	Aug 04	9/1/07
Instrument Simulator	N/A	9/30/06	Dec 04	5/30/06
Instrument Simulator	N/A	9/1/07	Nov 06	6/1/07
Instrument Simulator	N/A	9/1/07	Nov 06	6/1/07
GSE	N/A	12/30/07	6/26/06	9/1/07
Drill Jigs	N/A	1/31/07	6/26/06	9/30/07

**Note. Dates in ( ) are for planning purposes only and are not agreement dates.**



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## Attachment 2 LAUNCH SCHEDULE AND SARSAT NEED DATES

Deliverable Hardware	Projected Launch Date	Payload Need Date*	SARR Delivery Date (projected)	SARR Delivery Date (proposed)	SARP-3 Delivery Date (projected)	SARP-3 Delivery Date (proposed)
Instrument for C1	11/30/09	9/1/08	6/26/06	5/1/08	6/26/06	5/1/08
Instrument for C2	6/30/11	5/1/10	9/27/07	1/1/10	9/27/07	1/1/10
Instrument for C3	6/30/13	5/1/12	4/28/09	1/1/12	4/28/09	(1/1/12)
Instrument for C4	11/30/15	9/1/13	TBD	(5/1/13)	4/29/11	(5/1/13)
Instrument for C5	1/31/18	7/1/14	TBD	(3/1/14)	10/30/13	(3/1/14)
Instrument for C6	TBD	5/1/15	TBD	(1/1/15)	7/23/14	(1/1/15)
Engineering Development Unit	N/A	1/1/08	Jan-06 to May-06	9/1/07	Aug-04	9/1/07
Instrument Simulator	N/A	9/30/06	May-05	5/30/06	Dec-04	5/30/06
Instrument Simulator	N/A	9/1/07	Nov-06	5/1/07	Nov-06	5/1/07
Instrument Simulator	N/A	9/1/07	Nov-06	5/1/07	Nov-06	5/1/07
GSE	N/A	12/30/07	TBD	(9/1/07)	6/26/06	9/1/07
Drill Jigs	N/A	1/31/07	6/26/06	9/30/06	6/26/06	9/30/06

Note. Date in ( ) are for planning purposes only and are not agreement dates.